

ICESat-2 PROJECT SCIENCE OFFICE REPORT

Monday, February 4, 2019 thru Sunday, February 10, 2019

RGTs spanned: 574-68

Cycle 2

SUMMARY:

All ATLAS housekeeping data is nominal; laser 2 is firing at energy level 4 and in science mode. SIPS started production and the SCF started distribution of Rel 204 rapid ATL03, ATL04, ATL09, and ATL06 from 02/04/2019. Analysis of these new rapid data products is underway by the ATL03 team and the science team. SIPS completed ASAS v5.0 development, and this software is undergoing CCB reviews.

****ELEMENT DETAILS BELOW****

CAMS/POD/PPD:

CAMS: CAMS continues to monitor and screen for laser conjunction events in mission week 22. The MW022 Laser Conjunction report on both Wednesday and Thursday reported a probable lasing event on Feb 9, 2019 with a PI of 0.164 for 43742 (FLOCK 3R cube-sat). The team prepared a split load which included a laser to arm activity to avoid this event. CAMS screening on Friday showed there was no longer an event for 43742. The team determined the ATS split load was no longer necessary. CAMS is planning for mission week 23.

CAMS began delivering corrected rapid ANC05 products to SIPS this week. Corrections applied were provided by POD.

CAMS has restored the down server and has is configured as the warm spare backup.

POD: POD nominal operations continue. POD calibrated ANC05 files covering DoY 287-328 with MeanOfDate-to-J2000 and constant roll/pitch pointing bias corrections. Files were delivered to SIPS.

PPD: PPD is working on the LRS stellar side to characterize the errors for improved star identification. We are also developing some additional automated solutions to identifying those periods of degraded PAD using the laser motion and intensities.

ISF:

All ATLAS housekeeping data is nominal
Laser 2 is firing at energy level 4 and in science mode
SADA in Airplane Mode
Spacecraft orientation : -X

Mission Planning:

MW22 ATS is loaded to the spacecraft and currently operating.

Team had been planning Laser Conjunction Avoidance activities over the last two days for a high-interest-event on Feb 9. The last screening today showed that the event had self-mitigated.

MW23 is being planned

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Activities during the past week:

ATS activities:

All ATLAS and pointing activities were routine and completed as planned

Real-time activities

Feb 7: STOL proc updates that go with the PDB E.0.0 update were tested on FLATLAS

Feb 7: Executed standing CAR 91 to clear SBC errors.

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Upcoming activities:

MW22 scheduled activities in the ATS: MW22 Activities are attached

Other Near-term activities:

PDB E.0.0 install

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Notes/Issues:

1. ISF server patching complete

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LTO Schedule:

All items remain on schedule except

PDB E.0.0.0 install in operations to be coordinated with the MOC.

SIPS:

- The SIPS is operating nominally:
 - Ingested and distributed Level 0 data to the ISF.
 - Generated L1A and L1B products and distributed ATL02s to the ISF, POD, and SCF.
 - Distributed ATL01s via special request to the SCF.
- Started production of Rel 204 rapid ATL03, ATL04, ATL09, and ATL06 from 02/04/2019.
 - Based on updated rapid ANC products from CAMS containing MOD-to-J2000 correction and new pointing bias table correction until the s/c reconfigures the STs.
 - ATL03 is being distributed to both the SCF and NSIDC. ATL04, ATL09, and ATL06 products are being distributed to the SCF.
- All SIPS systems have been patched per results of monthly credentialed scans
- Completed ASAS v5.0 development. Undergoing CCB reviews.
- SIPS Build 4.0 (with ASAS V5.0) delivery slated for 2/18/2019.

ASAS:

Delivered the full ASAS v5.0 release to SIPS for testing.

Delivered release 950 test data to SCF for evaluation.

ASAS PGEs are undergoing acceptance review this (and next) week.

No outstanding issues for ATL01 or ATL02. The ATLAS SET is working on an update for receiver skew calibrations.

ATL03 : Investigations include the DAC correction, TEP-flagging and the computation of TEP flags on ANC41.

ATL04 : Working updates to calibration method 2.

ATL06: No issues actively being worked.

ATL07: Working excessive runtimes in ops testing.

ATL08: Working cloud filtering

ATL09: Working surface height removal

ATL10: Working reference surfaces for the calculation of freeboard

ATL12: Working computation of SWH

ATL13: Working alignment of impulse response.

SCF:

The SCF is operating nominally. All data from SIPS has been ingested and distributed including two days (Feb 4th and 8th) of release 204. A file listing the current SCF data holdings is attached.

Data Management Scripts – converted to Python 3.5 – formal testing required.

Subsetter – converted to Python 3.5 – in testing

Visualizer – preparations for new release almost complete – need to incorporate any changes for ASAS V5.0

ATL02:

Editorial changes were made to the ATL02 ATBD in sections 4.4 (Flagging of TEP Photons) and 7 (Atmospheric Histograms). These changes do not indicate any change to the actual algorithm.

Discussion on how to treat the fact that some photon event times of flight fall outside the reported telemetry band boundaries was widened to include the ATL03 team, to understand how the reported boundaries are used in downstream products. Possible actions include changing the way the telemetry band boundaries are reported.

Investigation continues on:

- Possible afterpulsing evident under very strong return conditions
- Power drop in Flight 1 laser (in laboratory life test)
- Return sensitivity

ATL03:

The ATL03 group is reviewing the ASAS v5 code that generates the ATL03 data product. So far, we have noted only one discrepancy, and we expect the upcoming ATL03 review to go smoothly. In parallel, ATL03 processing restarted on February 8th, with release 204. These are rapid ATL03 products, produced with ~3 days of latency from the date of collection. Initial analysis of these products revealed a substantial across-track tilt among the beams, on the order of 30m. POD/PPD is aware of this and is working the issue.

We aim to post a new version of the ATL03 ATBD to the public-facing website in the coming weeks.

ISF ACTIVITIES MISSION WEEK 022:

* Not in science mode

^ Could affect science data quality

^ 2019/038:01:23:18.0000 AMCS Cal for 2 minutes over open ocean

^ 2019/038:06:07:22.0000 AMCS Cal for 2 minutes over open ocean

2019/038:07:36:27.0000 OCEANscan (22 minutes)

^ 2019/038:09:13:26.0000 AMCS Cal for 2 minutes over open ocean

2019/038:10:37:15.0000 RTWscan (90 minutes)

* 2019/038:12:46:44.0000 TEP data collection for 3 minutes

* 2019/038:14:17:10.0000 TEP data collection for 3 minutes

* 2019/038:15:51:28.0000 TEP data collection for 3 minutes

* 2019/038:17:25:45.0000 TEP data collection for 3 minutes

* 2019/038:19:00:03.0000 TEP data collection for 3 minutes

2019/038:19:23:42.0000 OCEANscan (22 minutes)

* 2019/038:20:34:20.0000 TEP data collection for 3 minutes

* 2019/038:22:08:37.0000 TEP data collection for 3 minutes

* 2019/038:23:42:55.0000 TEP data collection for 3 minutes

^ 2019/039:00:57:38.0000 AMCS Cal for 2 minutes over open ocean

^ 2019/039:05:56:08.0000 AMCS Cal for 2 minutes over open ocean

^ 2019/039:07:13:29.0000 AMCS Cal for 2 minutes over open ocean

2019/039:08:45:04.0000 OCEANscan (22 minutes)

* 2019/039:13:51:30.0000 TEP data collection for 3 minutes

* 2019/039:15:25:48.0000 TEP data collection for 3 minutes

* 2019/039:17:00:05.0000 TEP data collection for 3 minutes

* 2019/039:18:34:23.0000 TEP data collection for 3 minutes

2019/039:18:58:02.0000 OCEANscan (22 minutes)

^ 2019/039:20:00:00.0000 Stellar centroid window dump for 90 minutes (no stellar centroids)

* 2019/039:21:42:57.0000 TEP data collection for 3 minutes

* 2019/039:23:17:15.0000 TEP data collection for 3 minutes

^ 2019/040:00:31:58.0000 AMCS Cal for 2 minutes over open ocean

* 2019/040:00:51:32.0000 TEP data collection for 3 minutes

^ 2019/040:06:47:49.0000 AMCS Cal for 2 minutes over open ocean

2019/040:08:19:24.0000 OCEANscan (22 minutes)

^ 2019/040:09:56:24.0000 AMCS Cal for 2 minutes over open ocean

* 2019/040:13:25:50.0000 TEP data collection for 3 minutes

* 2019/040:15:00:08.0000 TEP data collection for 3 minutes

* 2019/040:16:34:25.0000 TEP data collection for 3 minutes

* 2019/040:18:08:43.0000 TEP data collection for 3 minutes

* 2019/040:19:43:00.0000 TEP data collection for 3 minutes

2019/040:20:06:40.0000 OCEANscan (22 minutes)

* 2019/040:21:17:17.0000 TEP data collection for 3 minutes

* 2019/040:22:51:35.0000 TEP data collection for 3 minutes

^ 2019/041:00:06:18.0000 AMCS Cal for 2 minutes over open ocean

* 2019/041:00:25:52.0000 TEP data collection for 3 minutes
^ 2019/041:01:00:00.0000 Stellar centroid image dump for 90 minutes (no stellar centroids)
^ 2019/041:06:22:09.0000 AMCS Cal for 2 minutes over open ocean
2019/041:07:53:44.0000 OCEANscan (22 minutes)
^ 2019/041:09:30:44.0000 AMCS Cal for 2 minutes over open ocean
* 2019/041:13:00:10.0000 TEP data collection for 3 minutes
* 2019/041:14:34:28.0000 TEP data collection for 3 minutes
* 2019/041:16:08:45.0000 TEP data collection for 3 minutes
2019/041:16:52:23.0000 TOO (TOOid=838) for 2 minutes
* 2019/041:17:43:03.0000 TEP data collection for 3 minutes
* 2019/041:19:17:20.0000 TEP data collection for 3 minutes
2019/041:19:40:59.0000 OCEANscan (22 minutes)
* 2019/041:20:51:37.0000 TEP data collection for 3 minutes
* 2019/041:22:25:55.0000 TEP data collection for 3 minutes
* 2019/042:00:00:12.0000 TEP data collection for 3 minutes
^ 2019/042:01:14:55.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/042:05:57:15.0000 AMCS Cal for 2 minutes over open ocean
2019/042:07:28:04.0000 OCEANscan (22 minutes)
^ 2019/042:09:05:03.0000 AMCS Cal for 2 minutes over open ocean
2019/042:10:28:53.0000 RTWscan (90 minutes)
* 2019/042:12:37:49.0000 TEP data collection for 3 minutes
* 2019/042:14:08:48.0000 TEP data collection for 3 minutes
* 2019/042:15:43:05.0000 TEP data collection for 3 minutes
* 2019/042:17:17:22.0000 TEP data collection for 3 minutes
* 2019/042:18:51:40.0000 TEP data collection for 3 minutes
2019/042:19:15:19.0000 OCEANscan (22 minutes)
* 2019/042:20:25:57.0000 TEP data collection for 3 minutes
* 2019/042:22:00:14.0000 TEP data collection for 3 minutes
* 2019/042:23:34:31.0000 TEP data collection for 3 minutes
^ 2019/043:00:49:15.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/043 01:09:01.0000 DMU010 for 71 minutes
^ 2019/043:05:45:51.0000 AMCS Cal for 2 minutes over open ocean
^ 2019/043:07:05:06.0000 AMCS Cal for 2 minutes over open ocean
2019/043:08:36:42.0000 OCEANscan (22 minutes)
* 2019/043:13:43:08.0000 TEP data collection for 3 minutes
* 2019/043:15:17:25.0000 TEP data collection for 3 minutes
* 2019/043:16:51:43.0000 TEP data collection for 3 minutes
* 2019/043:18:26:00.0000 TEP data collection for 3 minutes
* 2019/043:20:00:18.0000 TEP data collection for 3 minutes
2019/043:20:23:57.0000 OCEANscan (22 minutes)
* 2019/043:21:34:35.0000 TEP data collection for 3 minutes
* 2019/043:23:08:52.0000 TEP data collection for 3 minutes
^ 2019/044:00:23:36.0000 AMCS Cal for 2 minutes over open ocean
* 2019/044:00:43:10.0000 TEP data collection for 3 minutes
^ 2019/044:02:26:41.0000 Laser image dump for 6 minutes over Antarctica during day

^ 2019/044:06:39:27.0000 AMCS Cal for 2 minutes over open ocean
2019/044:08:11:03.0000 OCEANscan (22 minutes)
^ 2019/044:09:47:55.0000 AMCS Cal for 2 minutes over open ocean
* 2019/044:13:17:29.0000 TEP data collection for 3 minutes
* 2019/044:14:51:46.0000 TEP data collection for 3 minutes
* 2019/044:16:26:04.0000 TEP data collection for 3 minutes
* 2019/044:18:00:21.0000 TEP data collection for 3 minutes
* 2019/044:19:34:39.0000 TEP data collection for 3 minutes
2019/044:19:58:18.0000 OCEANscan (22 minutes)
* 2019/044:21:08:56.0000 TEP data collection for 3 minutes
* 2019/044:22:43:13.0000 TEP data collection for 3 minutes